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ABSTRACT

This document summarizes a study designed to assess the feasibility of conducting relatively low cost later effects studies of Follow Through (FT) programs without extensive new data collection, relying instead on existing data resources including the national FT data base, sponsor and site data bases, school and community records, and potential new data collection of modest scope. Six data sets were selected as meeting the criteria (adequate sample size, availability of a wide range of measures, and good local comparison groups). Research questions that can be addressed by existing data bases were identified as follows: (1) What are the causal relationships among academic achievement, IQ, process measures, and affective measures? (2) Do achievement effects associated with FT participation increase, decrease, or stabilize after program completion? (3) What is the relative importance of the current academic year and the child's previous academic history as determinants of academic success? (4) What are the causal relationships between academic performance and school attendance in and after FT? (5) What is the relationship between post-FT academic performance and length of FT participation? (6) Is it possible to predict post-FT patterns on different measuring instruments? (7) What differences in post-FT performance exist among different models at the same site? (Author/HK)

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Opportunities for Studying Later Effects of Follow Through:

EXECUTIVE SUMMARY

by

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PURPOSE OF THE STUDY

In preparation for the possibility of funding new Follow Through research the U.S. Office of Education awarded a contract to Abt Associates Inc. to identify existing data bases supported by Follow Through sponsors and sites and to determine their utility for assessing possible delayed ("sleeper") effects of Follow Through on children some years after they completed the program.* The study had the following objectives:

- to discuss the history of later effects studies in Follow Through, the rationale for later effects studies, and the potential for building later effects studies into future Follow Through research plans;
- to review a selection of existing later effects studies conducted by Follow Through sponsor and site personnel in order to establish expectations for findings of new studies and to identify areas where more work is needed;
- to define criteria for the selection of data sets, and identify data bases that can support later effects studies; and
- to present detailed characteristics of these data bases and offer preliminary analytic plans.

The present study was designed to assess the feasibility of conducting relatively low-cost later effects studies without extensive new data collection, relying instead on existing data resources including the national evaluation data base, sponsor-maintained data bases, site-maintained data bases, school and community records, and potential new data collection of modest scope.

RATIONALE FOR LATER EFFECTS STUDIES

The long-term effect of educational programs is an important but neglected area of study. In order to provide information to policy makers within a reasonable time frame, evaluators of educational programs have traditionally measured impact at the end (or even before the end) of the treatment. However, there are several reasons for studying the later effects of Follow Through. First, Follow Through was initiated because the achievement gains obtained by Head start children appeared to dissipate in

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in the early school years. The same issue should be investigated with respect to Follow Through: if achievement gains are produced by Follow Through, do they dissipate, or are they sustained after completion of the program?

Second, many Follow Through sponsors try to influence childrens' affect, conceptual ability, cognitive style, and other nonachievement areas, as well as parental behavior. These sponsors believe that achievement gains will be obtained indirectly through impacts on mediating variables such as those listed above. In this case, effects on student achievement are not expected to occur quickly. In order to evaluate these sponsors' models it is necessary to examine achievement gains subsequent to program termination. The question is, do Follow Through models that aim for achievement gains by first influencing mediating variables produce delayed or "sleeper" effects?

A third motivation for studies of later effects is that Follow Through projects, by design or as a byproduct, may affect parental and community opinions. In general, parents support Follow Through and have had considerable impact on the Congressional decision to maintain the program in the face of efforts to phase it out. The question that might now arise is, what are parents', teachers', and students' opinions of Follow Through once students have made the transition to "regular" public school classes?

Fourth, Follow Through's overall objective has been to improve the "life chances" of low-income children. College attendance, future earnings, social mobility, and other post-school variables are all important indicators of success in life but are not currently available. Feasible life chances studies could concentrate on earlier, accessible indicators of success such as post Follow Through school attendance, special education placement, grade retention, dropout rate, grades, course selection, and discipline records.

Later effects studies can play a part in the future of Follow Through. First, empirical studies can address policy questions. Should Follow Through be extended to later grades (as Head Start was extended via Follow Through)? If so, should all models be extended, or only those that are found to be successful in maintaining postive end-of-third grade effects or those having positive sleeper effects?

Finally, the knowledge gained through later effects studies based on existing data bases will be of value in planning future Follow Through research. To the extent that later effects work suggests that Follow Through models may have positive post-third-grade effects, future studies can be designed to capture similar kinds of information more completely and accurately.

EXISTING LATER EFFECTS STUDIES

A review of recently completed later effects studies by Follow Through sponsors and sites was conducted in order to help establish expectations for the range of results that might emerge from future later effects studies, to help generate preliminary hypotheses for new studies, and to illuminate the areas where more work is needed. The review included synopses of studies concerning the following Follow Through sponsors: Arizona (Riley, 1978), Arizona (Cloud et al., 1979), Bank Street (Seitz et al., 1977), Far West (Bridewell and Edwards, 1979), Kansas (assorted reports), Oregon (Weber and Fuhrmann, 1978), and Oregon (Becker and Engelmann, 1978).

This sponsor and site research has concentrated on examining the persistence of academic effects (fade out), and searching for sleeper effects. One study investigated the effects of Follow Through on life chances variables. Our reviews of these studies, together with the results of many conversations with Follow Through sponsors, support the following conclusions.

First, models that produce positive effects by grade three appear to exhibit fade-out, particularly in math. This conclusion is based principally on research carried out by the Oregon and Kansas sponsors and is a relatively strong one.

Second, there is no strong evidence for sleeper effects on academic outcomes, although some work points in this direction, particularly in the Far West data and the Bank Street data. These "tidbits" only whet the appetite for further study.

Third, the work of the Developmental Continuity Consortium (Lazar et al. 1977) argues that preschool programs have significant positive effects on life chances variables such as special education placement and grade retention when measured in high school. A study based on data collected from Follow Through children (Cloud et al. 1979) replicated these findings and points to the importance of including life chances variables in designing later effects studies for Follow Through.

DATA BASE SELECTION CRITERIA

The general approach adopted for the identification of high-quality data bases was to follow an iterative process in which we first selected a large number of data bases that could potentially support later effects studies, learned enough about those data bases to select a subset for further work, obtained more information, selected a smaller set to investigate even further, and so on. We initially conducted a census of sponsors and inquired as to the existence of data at the sponsor and site levels. From these, we selected eleven data bases that might support later effects work.

The next step was to select data sets suitable for future study by specifying standards to be met. The following standards were used:

(1) The level of analysis can be either the sponsor or the site, provided that the site data can be viewed as arising from the same basic early childhood educaton model and that sample sizes are sufficiently large.

(2) The base of comparison must be local, in the form of a local comparison group or local norms. Demographic matches must be at least fair to good so that ANCOVA adjustment techniques are credible. Comparison groups can be either a posteriori or a priori.

(3) Attrition must not exceed 75% from entry to the post-Follow Through grades.

(4) There is no requirement that the data set include model-relevant dependent and intervening measures, but special consideration will be given to data sets where model-relevant measures are present. Data must extend at least through grade six. Well-matched control groups will not be required in cases where sponsor hypotheses about the relation of intervening variables and achievement measures can be tested.

(5) Sample size must be at least 100 (and preferably 250) in Follow Through and non-Follow Through groups separately.

(6) Test administration must be up to the standards of professionally supervised, teacher-administered tests.

(7) Measures of post-Follow Through curriculum and process are not required.

SELECTED DATA BASES

Six data bases that meet the above criteria were identified. Table 1 summarizes selected key characteristics for each of these data sets. Three of the six sponsor/site data bases afford especially good opportunities for studying later effects. They surpass considerably the

Table 1

Summary Assessment of Existing Data Bases

Data Base	Measures	Comparison Groups	Estimated Longitudinal Sample Size	Recommendation
Philadelphia Public Schools	Uniform achievement data for several sponsors.	Cross-sponsor comparisons. Well-matched local comparison groups to 1975.	Approximately 100 per sponsor per cohort.	Multi-sponsor study.
Fordham/ Atlanta, New York City	Achievement, cognitive, affective. Achievement data are longitudinally uniform.	Well-matched local comparison groups in Atlanta, fair to poor in New York City.	1,000s (Atlanta). 100 (New York City).	Study two sites jointly.
Oregon	Uniform achievement data across several sites.	Well-matched local comparison groups in five sites.	100s.	Study five sites with local comparison groups (sponsor level) and adequate sample size.
Arizona/ Wichita	Uniform longitudinal achievement data.	Randomized across treatment/control groups. There are also non-random FT classmate, low income groups.	40 (of initial 100) longitudinal children per cohort.	Site-level study.
Georgia State/ Natchitoches	Longitudinally uniform achievement data.	Well-matched local comparison groups for 3 of 6 schools.	Low 100s across all cohorts.	Site-level study.
SEDL/ San Diego	Non-uniform achievement data. Some longidudinal uniformity.	Adequately matched local comparison groups.	75-150 per site for each cohort.	Site-level study.

minimum methodological standards (i.e., adequate sample size, availability of a wide range of measures, good local comparison groups), and findings from studies based on these data might be generalizable to populations of interest. The three top-ranked data sets are as follows:

1. Philadelphia, merged with the national evaluation data base, concentrating on Cohorts I-III;
2. Fordham, including both Atlanta GA, and New York, NY, and;
3. Oregon, concentrating on five sites with well-matched local comparison groups.

The remaining three data bases that we recommend for study are weaker methodologically and/or in generalizability than those identified above. The data are from single sites with marginal sample sizes. These are:

4. Arizona (Wichita, KS);
5. Georgia State (Natchitoches Parish, LA); and
6. Southwest Educational Development Laboratory (San Diego, TX; possibly Los Angeles, CA and St. Martin Parish, LA).

Any of the latter three data bases will support smaller studies that, since they involve only one site each (SEDL possibly excepted), would not allow general conclusions to be drawn about the educatonal models involved. They would be useful mainly as important quantitative case studies. However, if performed in conjunction with the other studies they may help substantially in fitting together a more complete picture of the later effects of Follow Through.

RESEARCH QUESTIONS ADDRESSED BY STUDIES OF EXISTING DATA BASES

Figure 1 summarizes the major questions that can be addressed by later effects studies of Follow Through based on existing data, and indicates the questions that can be addressed by each of the selected six data sets. The first three data sets, supported by Philadelphia, Fordham, and Oregon respectively, offer the chance to address a much wider range of questions than would be possible with the other data bases. Still, the latter three data sets (Arizona, Georgia State, SEDL) can provide valuable information on a limited number of research questions.

As part of an overall analysis strategy, analyses of these six data sets could be conducted independently. The final product could then provide

Figure 1

Summary of Research Questions that Can Be Addressed by Each Recommended Data Base

RESEARCH QUESTIONS	RECOMMENDED DATA BASES					
	Phila-delphia	Fordham	Oregon	Arizona	Georgia State	SEDL
1. What are the causal relationships among academic achievement, IQ, process measures (amount of FT exposure, attendance, etc.), and affective measures?	X	X	X			
2. Do achievement effects associated with participation in FT increase, decrease, or stabilize after completion of the program?						
a. If positive effects on academic achievement are produced by FT models at the end of grade 3, do they fade out, or are they sustained in the post-FT years?	X	X	X		X	
b. Do FT models that aim for achievement gains by first changing children's affect, conceptual ability, parental behavior, and so on, produce "sleeper effects" on achievement measures?	X					
c. How does post-FT academic performance relate to previous FT performance and initial status (e.g., socioeconomic status, pretest, demographic data)? Are gains sustained in the post-FT years?	X	X		X	X	X
3. What are the relative importances of the current academic year and the child's previous academic history as determinants of academic success?	X	X	X			
4. What is the causal relationship between academic performance and school attendance? In FT? After FT?	X	X	X			
5. What is the relationship between post-FT academic performance measures and length of FT exposure?	X	X		X		
6. Is it possible to predict post-FT patterns (fade-out, sleeper effects, sustained growth, etc.) on different measures (e.g., math, reading, Metropolitan Achievement Test, Wide Range Achievement Test) in terms of the FT curriculum?	X		X			
7. What differences in post-FT performance (achievement, grades, attendance) exist among different models at the same site?	X					

an integrated picture pieced together from the available evidence. We suggest that the integrative analysis also include results from existing sponsor and site analyses that meet acceptable standards of methodological rigor. The results from such a later effects effort could be available within one or two years.

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